DRAFT ANALYSIS OF COALBED METHANE STORAGE IN ABANDONED COAL MINES IN VIRGINIA

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I. History of Coalbed Methane Development

Issues of Importance to Coalbed Methane Storage in Virginia

Coalbed methane, also known as coal seam gas, occluded natural gas, and gob gas, has historically been considered one of the greatest dangers to coal mining. Collected methane gas was intentionally vented to prevent accidental explosions or asphyxiation. Commercial extraction of coalbed methane was economically impractical.[1] Consequently, when deeds, contracts and statutes relating to coal and mining rights were drafted, the drafters rarely considered the question of coalbed methane ownership because it was considered valueless.[2]

Modern extraction methods have now made coalbed methane production practical. The analysis of coalbed methane ownership is thus complicated by the need to determine the intent of the parties at the time the contracts and/or deeds were drafted and executed. Courts are being called upon to determine the ownership of coalbed methane in situations where mining and mineral rights have been divorced from other incidents of ownership of the lands at issue. In its simplest form, the question is whether the entity which acquires the coal and/or gas rights, also acquires the coalbed methane rights.

The issue will also give rise to questions concerning the storage rights of coalbed methane. Can coalbed methane be stored in abandoned coal mines? If so, who owns the container space — the coal owner or the surface owner? These questions necessarily involve a complex interaction between traditional property and mineral rights laws.

In order to gain a perspective of coalbed methane development and the ensuing case decisions, it is essential to look at the beginning of coalbed methane development in the United States. The first serious research regarding coalbed methane production occurred in the 1970s when the U.S. Bureau of Mines and U.S. Steel developed a test project in the Black Warrior Basin in Alabama.[3] This program was expanded by the Bureau of Mines and the Department of Energy into a 23-well project. The project demonstrated that 73% of the "in-place" methane could be produced through vertical wells.[4] The Gas Research Institute (GRI) began its coalbed methane research in the 1980s. Its activities relating to coalbed methane have included estimating and evaluating the resource, cooperative well studies,

reservoir engineering analysis, fracturing and completion work, operational improvements and recompletion of wells.[5]

The increased production of coalbed methane in the Appalachian, Black Warrior, San Juan, Piceance, Powder River and Greater Green River Basins indicates that coalbed methane has emerged as a valuable energy resource. In 1982, the national annual coalbed methane production was virtually zero.[6] By 1990, production nationwide had risen to 195 billion cubic feet (bcf), approximately 475 bcf was produced in 1992, and 1993 production reached 730 bcf.[7] Coalbed methane production increased to 858 bcf in 1994.[8] The number of coalbed methane wells in the nation had grown from a handful in 1982 to more than 6,600 in 1992.[9] By 1994, coalbed methane accounted for five percent (5%) of the nation's natural gas production.[10] Nationwide coalbed methane production increased by fifty percent (50%) during the period between 1992 and 1994.[11] According to Richard A. Schraufnagel at GRI, coalbed methane production in 1995 reached 900+ bcf and 1996 coalbed methane production topped the 1,000 bcf mark.[12]

II. Summary of Coalbed Methane Development in Virginia

It is also important to examine the history of coalbed methane development in Virginia to gain a perspective of the treatment of this mineral. The first coalbed methane production in Virginia occurred in 1988.[13] The production figure for coalbed methane was not, however, reported separately from the conventional gas production. By 1989, coalbed methane production accounted for one percent (1%) of the total gas production (17,935,376 mcf) or 181,526 mcf.[14] Thus, coalbed methane was being extracted and reported although coalbed methane was not included in the Virginia Gas and Oil Act until 1990.[15] In 1990 and 1991, coalbed methane production rose from approximately 800,000 mcf to 1,100,000 mcf representing five and four-tenths percent (5.4%) and seven and four-tenths percent (7.4%) of the total gas production for Virginia.[16] By 1992, the total production of gas had risen to 24,733,611 mcf, including 6,000,000 mcf of coalbed methane.[17]

Virginia has been leading the Appalachian Basin in development of coalbed methane, and there are no signs of any decline in production. In 1993, Tom Fulmer of the Division of Gas & Oil reported to the Virginia Oil and Gas Association (VOGA) members that natural gas development in Virginia had grown at an "incredible" rate.[18] The 1993 production for coalbed methane was 19.9 bcf (19,900,000 mcf).[19] The year 1993 marked the first time, since operators began developing coal seam gas in the late 1980s, that coalbed methane production in Virginia surpassed conventional gas.[20] This trend has continued throughout the 1990s. In 1994 total gas production was 50.3 bcf. Coalbed methane production

represented fifty-six and four-tenths percent (56.4%) of the total production which equals 28.3 bcf.[21] In 1995, coalbed methane production represented sixty-one percent (61%) of the total production of 49.8 bcf or 30.4 bcf.[22] By 1996, total gas production had risen to 54.3 bcf with coalbed methane production at 34.2 bcf representing sixty-three percent (63%) of the total production.[23]

In less than ten (10) years, as noted by the production totals, coalbed methane has become a lucrative business in Virginia. Permit applications for coalbed methane wells in 1996 in Virginia outnumbered conventional gas well permit applications 203 to 17.[24] It is clear that coalbed methane is the current king of the gas industry. As this trend continues and landowners gain additional knowledge of the value of this commodity, we may anticipate that additional ownership issues, such as storage and ownership of the storage container, will arise.

III. Coalbed Methane Ownership Issues as Related to Coalbed Methane in Abandoned Mines

In evaluating the use of abandoned coal mines for storage of coalbed methane, it is important to analyze the issues surrounding the ownership of the coalbed methane itself. An understanding of these ownership issues is necessary to recognize the potential ownership issues involving storage: (1) who has the power to grant storage rights?; (2) who owns the container space once the mineral it held is depleted?; and (3) who owns the abandoned mine and shafts? These issues may give rise to the same interpretive issues raised by the parties engaged in coalbed methane ownership disputes.

Additional ownership issues relating to storage of coalbed methane in abandoned coal mines involves the use of cushion gas. In any storage facility, there must be a pocket or cushion of gas in place in order to provide the pressure needed to operate the facility.[25] Cushion or base gas is the gas in the reservoir (abandoned mine) which is native to the reservoir and/or injected into the reservoir.[26] If the cushion gas is native coalbed methane, that is gas remaining in the mine, the importance of coalbed methane ownership issues are apparent. Who will be compensated for the coalbed methane remaining in the mine -- the coal owner, the gas owner, the surface owner? How does the fact that there is coalbed methane in the mine affect the ownership of the abandoned mine container space?[27] If no cushion gas exists or there is not enough cushion gas to maintain pressure in the abandoned mine, how will the injected gas affect the ownership issues? These

issues will surely arise and will need to be answered in establishing an abandoned mine storage environment in Virginia.

Thus, it is imperative that we examine the issues of coalbed methane ownership. The question of the extent of mineral rights conveyed or reserved generally includes a consideration of the intent of the parties or drafters of the instruments (deeds and leases) or statutes which created the rights.[28] Therefore, courts are now being called upon to determine the intent of individuals who historically gave little, if any, consideration and likely never formed any intent as to the ownership of coalbed methane. In some instances, however, the courts must also decide whether the intent of the parties or legislators is or should be a factor in the coalbed methane ownership determinations.[29]

a. Coal Owner Argument

Many cases analyzing the coalbed methane ownership issue have included arguments regarding the definitions of "coal"[30] and "gas."[31] The location of the coalbed methane in the coal seam provides the coal owner with a substantial claim. The coal owner may claim that the coalbed methane is an inherent part of the coal and that ownership of the coal seam includes ownership of the "gas" contained within it.[32] The coal owner may further argue: (1) coalbed methane is adsorbed onto the coal; (2) the physical bond between the coal and the coalbed methane is so close that the two cannot be separated; and (3) the coal seam is the source of and the reservoir for the coalbed methane.[33]

b. Oil and Gas Owner Argument

The gas owner may argue that the chemical composition of coalbed methane is nearly identical to that of natural gas.[34] This fact provides the gas owner with a significant argument for ownership. Another theory the gas owner may espouse is that the right to produce coalbed methane from coal is no different than the right to remove natural gas from other subsurface formations (i.e. the sandstone formation, which may not belong to the gas estate owner).[35] The plain meaning of "gas" appears to definitively include coalbed methane. In contrast, "coal" commonly means a solid mineral, not a gas.[36] The oil and gas owner may also argue: (1) recovery methods parallel that of natural gas; (2) the migratory nature of coalbed methane is the same as that for natural gas; and (3) reversion of the container space to the gas owner once the coal is mined gives them a right to the gas (in cases where the

gas owner is also the surface owner). However, in analyzing the ownership issue, only a few courts have held that "gas" includes coalbed methane.

c. Surface Owner Argument

Finally, a surface owner may claim an interest in the coalbed methane, although this position is clearly the weakest. In Virginia, as in most jurisdictions, ownership of the container space reverts to the surface owner once the coal is removed.[37] Therefore, a surface owner could claim that since he owns the container space where the coal was situate, he could also claim ownership of the coalbed methane within that space. This would not, however, be a substantial argument. The gas or coal owner could easily counter that as the "mineral" owner, they are entitled to ownership of the mineral within the container space. One fact situation that may afford an ownership claim by the surface owner is where the coal, oil and gas have been specifically severed. The surface owner could claim that since coalbed methane was not contemplated (but considered to be a hazard) at the time of the severance, ownership of the non-severed mineral, the coalbed methane, remains with the "surface" or "other mineral" owner.[38]

For example, assume that Landowner A owns the property in fee simple (no prior mineral severances). Landowner A sells the property to Landowner B reserving the coal. Landowner B subsequently sells the property to Landowner C reserving the oil and gas. Landowner A owns the coal and Landowner B owns the oil and gas. Thus, Landowner C, the "surface owner," would apparently own the residual minerals. If the coal owner (Landowner A) and the oil and gas owner (Landowner B) do not own the coalbed methane, the "surface owner" (Landowner C) as the residual mineral owner could claim the coalbed methane ownership. The issue is further complicated by coal lessees, oil and gas lessees and mineral lessees.

IV. Coalbed Methane Case Decisions

There are nine (9) decided and three (3) pending coalbed methane cases in the United States of significance to coalbed methane ownership. Many of the opinions have arisen out of Alabama. In all of the cases, slightly different fact situations resulted in different holdings. The decided cases represent the landmark decisions and issues surrounding coalbed methane ownership. They are relevant to storage issues in Virginia because the theories and analyses of the various courts will provide insights into past and current views on coalbed methane ownership. The

issues discussed in these cases may afford an opportunity for understanding the interpretive issues that may be faced by storage operators in Virginia.

Presently, there have been no coalbed methane ownership cases decided in Virginia. None of the decided cases constitute binding precedent on Virginia courts. Nevertheless, courts often look to the decided cases in other jurisdictions for guidance.

a. Decided Cases

i. *Ownership of and Right to Extract Coalbed Gas in Federal Coal Deposits*, (M-35935), 88 I.D. 538 (1981)

The Department of the Interior issued this 1981 opinion which concluded that coalbed methane gas was not reserved by the federal government when it reserved coal under the 1909 and 1910 Acts and that the federal government did reserve coalbed methane gas under the 1914 Act when the government reserved gas. The Solicitor's Opinion also concluded that federally owned coalbed gas should be exploited under oil and gas rather than coal legal authorities. These conclusions rested on six principles:

(1) the 1909 and 1910 Acts and their legislative histories;
(2) the 1914 Act and its legislative history;
(3) the Mineral Leasing Act;
(4) other federal legislation addressing the exploitation of associated minerals;
(5) common law and scientific principles; and
(6) coal and gas legal authorities in relation to exploration and production of coalbed gas.[39]

ii. *United States Steel Corp. v. Hoge*, 468 A.2d 1380 (Pa. 1983)

In *Hoge*, the Pennsylvania Supreme Court held that the gas which is present in the coal necessarily belongs to the coal owner. The court was asked to determine the ownership of coalbed methane, found in the "Pittsburgh" or "River" vein of coal owned by United States Steel Corporation (U.S. Steel), which underlaid certain tracts of land owned by Hoge, Cowan and Murdock (Hoge). U.S. Steel acquired ownership of the coal through a severance deed dated July 23, 1920.

> The severance deed granted, in pertinent part, "all the rights and privileges necessary and useful in the mining and removing of said coal, including . . . the right of ventilation."[40] Hoge's predecessor in title reserved "the right to drill and operate through said coal for oil and gas without being held liable for any damages."[41]

In formulating its conclusion, the court considered the history of gas development; the general nature of coal ownership rights; and the language contained in the severance deed in question. The court held that, as a general rule, such gas as is present in coal must necessarily belong to the coal owner, so long as it remains within his property and subject to his exclusive dominion and control.

In examining the language in the severance deed, the court gave "effect to all its terms and provisions, and construe[d] the language in light of conditions existing at the time of its execution."[42] At the time of the severance deed, the court found that commercial exploitation of coalbed gas was very limited and sporadic. Thus, even though the unrestricted term "gas" was used in the reservation clause, the court did not believe the parties intended to reserve all types of gas. The court found "implicit in the reservation of the right to drill through the severed coal seam for 'oil and gas' a recognition of the parties that the gas was that which was generally known to be commercially exploitable."[43] The reservation was limited by the court to the right to drill through the coal seam to reach the oil and gas lying below the coal strata.

iii. *Rayburn v. USX Corp.*, No. 85-G-2661-W, 1987 U.S. Dist. LEXIS 6920 (N.D. Ala. 1987), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988)

> In *Rayburn*, the United States District Court for the Northern District of Alabama held that title to the coalbed methane was vested in the coal owner. The court's holding in *Rayburn* was "based on the language of the deed in question and is not a declaration that in all instruments the interpretation will be the same."[44] The pertinent language in the 1960 severance deed on which the court based its decision is as follows:
>
> > Grantors herein covenant and agree that any right to explore for or produce oil and gas, or to drill wells for the exploration for or production of oil and gas in the above-described lands *shall be subject to the requirement that all coal seams located in said lands penetrated in such*

> *exploration or drilling operations shall be encased or grouted off . . . .*[45]

The court found this language to be clear and unambiguous. The clearly expressed intent of the parties was that the methane in the coalbed not be available to any well drilled by oil and gas lessees or assigns.[46]

iv. *Rights to Coalbed Methane Under an Oil & Gas Lease for Lands in the Jicarilla Apache Reservation*, No. M-36970, 98 I.D. 59 (1990)

The Department of the Interior rendered a decision addressing the question of whether coalbed gas was granted under oil and gas leases issued for Indian lands. The Department concluded that coalbed gas was granted under these leases. First, the Department determined that coalbed gas is "natural gas," noting that this conclusion was not altered by the physical status of coalbed gas and recognizing that many types of gas take gaseous or liquid forms in reservoir rock.[47] Second, the Department concluded that the term "oil and gas deposit" as used in Indian leases includes coalbed gas.[48] Third, the Department concluded that coalbed gas was conveyed under Indian oil and gas leases irrespective of whether the parties had a specific intent to convey that resource.[49] Fourth, the Department reached these conclusions in reliance upon the 1981 Solicitor's Opinion.[50]

v. *Carbon County v. Baird*, No. DV 90-120, 1992 WL 464786 (Mont. Dist. Ct. Dec. 14, 1992), *rev'd sub nom. Carbon County v. Union Reserve Coal Co.*, 898 P.2d 680 (Mont. 1995)

The court in *Carbon* held that the conveyance of "coal and coal rights with the right of ingress and egress to mine and remove the same"[51] included ownership of the coalbed methane gas contained in the coal as well as the exclusive right to develop such gas.

Union Reserve Coal Company was the successor in interest to a 1974 contract of sale that agreed to sell "all coal and coal rights with the right of ingress and egress to mine and remove the same."[52] In 1991, Florentine Exploration and Production, Inc., obtained an oil and gas lease on the property in question. The lease granted Florentine "the exclusive right for the purpose of mining, exploring by geophysical or other methods, and operating for and producing

therefrom oil and all gas, including coal seam methane of whatsoever nature or kind . . . ."[53] Florentine attempted to secure a protective coal seam methane gas lease from Union. Florentine, however, drilled a well before securing the protective lease and Union later rejected the offer. Carbon County initiated the suit and Florentine was allowed to intervene. Florentine sought to quiet title to the coal seam methane gas as conveyed to it pursuant to the aforementioned lease.

Coal seam methane was described by the court, in the findings of fact, as a product of the coalification process.[54] The court thus held that coal is both the source of and the reservoir of the methane. The combination of methane gas and coal was noted by the court to be the cause of frequent and tragic explosions in coal mines.[55] In addition, the court noted that it was important for the coal mine operator to be able to mine the coal in the most economical and effective method.[56] Thus, it is necessary that the coal operator have control over the drilling of wells into the coal seam in order to minimize disruptions to the mining process caused by the drilling and completion of wells in the coalbed.[57]

The decision in the case turned on the interpretation of the language granting the "coal and coal rights." The court relied upon the legal precedents rendered in *United States Steel Corp. v. Hoge*;[58] *Rayburn v. USX Corp.*;[59] and, *Pinnacle Petroleum Co. v. Jim Walter Resources, Inc.*[60] In each of these cases, the courts found in favor of the coal owner. The court noted that methane gas is essential to the mining of coal. Before the coal can be safely mined, the coal operator must remove the methane.[61] These facts and legal principles, combined with the fact that coal is the source of and the reservoir of the coal seam methane gas, led the Montana court to hold that the conveyance of "coal and coal rights with the right of ingress and egress to mine and remove the same"[62] by Carbon County included "coal seam methane gas as a product of the coalification process, and included with it the ownership of the coal methane gas contained in the coal, as well as the exclusive right to develop or dispose of and [*sic*] coal seam methane."[63] Accordingly, the court held that Florentine trespassed upon the coal. Thus, Florentine's complaint requesting that the court declare it the owner of the coal seam

methane gas and its counterclaim that it had acquired the right to produce the coal seam methane gas under the lease were dismissed.[64]

The district court decision was appealed to the Montana Supreme Court.[65] The main issue before the court was whether coal seam methane gas was a constituent part of the coal estate granted to Union.[66] The Montana Supreme Court closely examined the plain meanings of the terms "coal" and "gas" and concluded that coal and gas are mutually exclusive terms.[67] The court opined that "[s]ince coal seam methane gas is a fluid hydrocarbon and is produced at the wellhead, it falls within the statutory definition of gas and again it is distinguishable from coal, a solid hydrocarbon.[68] It also noted that coal seam methane gas is potentially severable from the coal seam.[69]

In *Carbon County,* the Montana supreme court reversed the district court and ruled that the district court had erred in awarding Union Reserve the right to produce the coalbed methane gas from the coalbeds.[70]

The court stated that "Union Reserve only acquired the coal and the incidental right to mine and remove the coal."[71] It found that Florentine had been given the right to extract the coal seam methane gas, and that Union Reserve could extract and capture the gas only for purposes of safety incidental to its coal mining operations.[72] Accordingly, it concluded that coalbed methane gas "is separate from coal and is not a constituent part of the coal estate."[73]

vi. *Vines v. McKenzie Methane Corp.*, 619 So. 2d 1305 (Ala. 1993)

In *Vines*, the Supreme Court of Alabama held that the ownership of methane gas, with the accompanying rights to develop and produce it, was included in the coal and mineral conveyances. The conveyancing language contained in two (2) pre-1910 mineral deeds (Deeds) was at issue. The deeds conveyed the following estates: (1) "all of the coal, iron ore, and other minerals";[74] and (2) "all the coal and other minerals."[75] McKenzie Methane Corporation (McKenzie) obtained coalbed methane leases (Leases) from the successors in interest to the grantees in the Deeds. McKenzie planned to drill coalbed methane wells independent of mining operation. The Grantors sought to prevent drilling operations on the property arguing that coalbed methane was not considered valuable at the time of the Deeds. Thus, coalbed methane was not conveyed by the Deeds

and the Leases were, therefore, ineffective. At the trial court level, summary judgment was granted in favor of McKenzie.

The Alabama Supreme Court noted that coalbed methane is produced from coal seams and is formed during and as a by-product of the coalification process. It further noted that although some of the methane migrates out of the coal, a large amount remains behind and is physically bound to the coal. Because coalbed methane is liberated during mining and poses a significant hazard to the miners, it must be removed. The court found that the existence of coalbed methane in commercial quantities was recognized in Alabama as early as the 1920's. It was not, however, a significant industry until the 1980's.[76]

The court relied upon the legal precedents rendered in *United States Steel Corp. v. Hoge*;[77] *Rayburn v. USX Corp.*;[78] and *Carbon County v. Baird*.[79] In each of these cases, the courts held that the coal estate owner was also the owner of the coalbed methane gas.

The Alabama Supreme Court held that the evidence in the case at bar confirmed that the processes for coalbed methane gas drilling and coal mining are inextricably entwined.[80] The drilling process was noted by the court as an intrusion upon coal mining. The court, in keeping with earlier Alabama law construing mineral leases, held that "an express grant of 'all coal' necessarily implies the grant of coalbed methane gas, unless the language of the grant itself prevents this construction."[81] The court found that neither of the Deeds in question contained any limiting language, and in fact, clearly reserved only the surface rights. Accordingly, the court held that the ownership of methane gas, with the accompanying rights to drill for it, was necessarily included in the mineral estates granted in the Deeds and affirmed the summary judgments for McKenzie.[82]

vii. *Cantley v. Hubbard*, 623 So. 2d 1079 (Ala. 1993)

The Alabama Supreme Court in Cantley interpreted a 1929 warranty deed in an action involving conflicting claims to production royalties from three methane gas wells in a coal degasification field. In a 1924 patent, the United States reserved all the coal underlying the land in question. In a 1929 warranty deed, the grantor (a successor in interest to the United States) reserved "[a]ll mineral reserved to the United States."[83] On a motion for summary judgment, the court held that this language reserved all the minerals that were owned by the grantor at that time, i.e., all the minerals less the coal that had been reserved by the United States.

The portion of the reservation "to the United States" was interpreted by the court as "merely an erroneous recitation of the prior reservation."[84] The court held that all mineral rights, other than coal, were clearly reserved by the grantor of the 1929 warranty deed. Thus, by implication, the coalbed methane was reserved by the 1929 warranty deed's grantor.

The *Cantley* court referred to *Vines v. McKenzie Methane Corp.*,[85] in a footnote and stated that it made no judgment as to the possible interests held by other parties because the question of whether a lease of coal rights included the right to explore for and produce coalbed methane was not raised.[86]

viii. *NCNB Texas Nat'l Bank v. West*, 631 So. 2d 212 (Ala. 1993)

In *West*,[87] the appeal arose from a Mobile County Circuit Court decision in which the trial court held that the language granting the coal contained in the chain of title deeds (Deeds) vested ownership of the coalbed methane in the coal owners/lessees (Jim Walters Parties) and not in the gas owners (Trustee Bank). The Alabama Supreme Court affirmed in part, reversed in part and remanded the case for further proceedings.

The Alabama Supreme Court's decision in these cases, as in the lower court, hinged on the interpretation of the reservations and the conveyancing language contained in the Deeds. The Deeds granted the following estate: "all the coal, and mining rights . . ."[88] and reserved the following estate: "all interest . . . other than the above-described interests in coal and mining rights . . . . Grantor specifically reserves all of the oil, gas, petroleum and sulphur . . . ."[89] The Jim Walter Parties maintained that the coalbed gas was granted to them by virtue of the Deeds. Conversely, the Trustee Bank argued that the Deeds reserved the coalbed gas.

The trial court relied heavily upon the legal precedent rendered in *Hoge* and held that the coalbed gas belongs to the coal owner. However, the Alabama Supreme Court reached a different conclusion in part. In determining the intent of the parties to the Deeds, the Supreme Court relied upon general deed construction cases. The Supreme Court agreed with the trial court's analysis that the Deeds were not ambiguous. However, the Supreme Court did not agree that, as a matter of law, a reservation of "all gas" did not include coalbed methane. The court, focusing on the "plain meaning" of the words used in the Deeds and basic principles of property law, held:

> the fact that the coalbed methane gas is produced by, and stored within, coal seams does not require the conclusion that a grant of 'all coal' includes coalbed methane gas, nor does it require the conclusion that a reservation of 'all gas' does not include coalbed methane gas . . . . However, careful analysis of the law of real property indicates that the ownership of coalbed gas depends upon its location at the time the gas is recovered or 'captured,' at which time it is reduced to possession.[90]

The court reasoned that under the rule of capture, gas that migrates from one property to another is subject to recovery and possession by the holder of the gas estate on the property to which the gas migrates.[91] The Supreme Court evaluated the conveyance of coal "as a distinct property [which] also includes that bundle of property rights included within the coal, such as the rights incident and necessary to the recovery of the coal."[92] Thus, the Supreme Court held that the rule evolved to settle disputes between oil and gas owners on separate tracts of land. The court held that this rule was also applicable to coalbed methane gas, a migratory mineral resource.

> Thus, so long as the coalbed gas is bound within the coal seam in which it originated, the holder of the coal estate has the right to extract the gas and reduce it to possession. However, once the coalbed gas migrates out of the stratum in which it originated, the right to recover the gas belongs to the holder of the gas estate (footnote omitted).[93]

As to the venting of coalbed gas for mining purposes, the Supreme Court held, and the Trustee Bank agreed, that "[to the extent that ventilation is required by law, the coal owner will not be liable to the owner of the gas rights for any waste of methane gas that occurs during ventilation."[94] The court held that the Trustee Bank had no interest in coalbed gas recovered from horizontal or vertical wells drilled directly into coalbeds before the coal is mined. The Trustee Bank does, however, have an interest in coalbed methane gas that migrates out of the coal seams, such as gas collected within the gob zone.

Thus, the court held that:

> absent a clear showing to the contrary, the reservation of all gas includes the right to coalbed methane gas that migrates

> into other strata from out of the source coal beds where it formed. . . . based on the facts and circumstances of each case, and absent a clear showing . . . to the contrary, the reservation of coalbed methane gas does not include coalbed gas contained within its source coal seam, and that the holder of the coal estate has the right to recover *in situ* such gas as may be found within the coal seam. However, once that gas escapes unrecovered from the coal and migrates into other strata, then the holder of the gas estate has the right to reduce to possession the coalbed methane gas from the other strata. If the coal owner captures and sells gob gasses that have migrated into other strata, the gas owners are entitled to share in any profits on such sales, after taking into account the cost borne by the coal owner in capturing and marketing the gas.[95]

The Alabama Supreme Court affirmed the portion of the trial court's holding that the Jim Walter Parties "have the exclusive right to produce and own coalbed methane gas from horizontal boreholes and vertical degasification wells drilled directly into the source coal seam."[96] The Supreme Court, however, reversed the trial court's holding regarding the right to recover coalbed methane from the gob area above the source coalbed and, instead, held that the Trustee Bank "has the exclusive right to produce and own all the coalbed methane gas that has been, or that will be, produced from gob wells . . . ."[97] The case was remanded to the trial court for further proceedings regarding the determination of factual and legal issues.

ix. *Southern Ute Indian Tribe v. Amoco Production Co.*, 874 F. Supp. 1142 (D. Colo. 1995) *rev'd* No. 94-1579 (10th Cir. July 16, 1997)

In 1991, the Southern Ute Indian Tribe (Tribe) sued Amoco Production Company,[98] other oil companies, individual oil and gas lessees and federal defendants in their capacities as trustees for the Tribe, claiming ownership of the coalbed methane underlying approximately 200,000 acres within the Southern Ute Indian Reservation in southwest Colorado. On September 13, 1994, the United States District Court of Colorado held that under the 1909 and 1910 Acts (the "Acts"), which were the source of title to the coal, the reservation of "coal" did not include coalbed methane. The Tribe appealed that decision.[99]

On July 16, 1997, the United States Court of Appeals for the Tenth Circuit reversed the lower court's decision and held that the Tribe, as the successor in interest to the United States' statutory reservation of coal, is the owner of the coalbed methane underlying the subject lands. In reaching its decision, the court analyzed the Acts that were the source of the Tribe's interest. The Acts provided that patents issued for lands belonging to the United States "shall contain a reservation to the United States of all coal in said lands, and the right to prospect for, mine, and remove the same."[100]

In analyzing the Acts, the Court of Appeals utilized various principles of statutory interpretation. It found that the legislative history of the Acts "suggested" that Congress intended to adopt "an interpretation of coal which encompassed both the present and future economic value of coal, including value that could only be realized through advances in technology such as those which drive the present day exploration for CBM."[101] The Court was persuaded by the historical context and legislative history of the Acts that the coalbed methane was reserved to the United States. The Court noted that its decision was also supported by previous interpretations of analogous statutory mineral reservations.

Finally, the Court considered the 1981 Solicitor of the Department of the Interior opinion, *Ownership of and Right to Extract Coalbed Gas in Federal Coal Deposits*.[102] The Court found that the Solicitor's opinion was not binding policy because it was not promulgated through the rule-making process nor adjudicated. It was only a "public pronouncement that Interior will not assert the federal government's right to CBM under its reservation of coal" but rather under its oil and gas reservations.[103] The Court also stated that the case on which the Solicitor relied in support of his conclusion was overruled on appeal and that the opinion was inconsistent with Interior statements made contemporaneously with the Acts. The Court was convinced that the Solicitor's interpretation of the Acts was arbitrary because he did not explain how "Congress could have intended to convey a substance neither known to be valuable nor severable at the time of the enactments," and so omitted potentially determinative factors from his analysis.[104] The *Southern Ute* case was

remanded to the trial court to address various issues raised by the defendants.[105]

b. Pending Cases

i. *Pinnacle Petroleum Co. v. Jim Walter Resources, Inc.*, No. CV-87-3012 (Ala. Cir. Ct. July 28, 1989) (order partially granting defendant's motion for summary judgment)

In *Pinnacle*, Pinnacle Petroleum Company (Pinnacle) derived its interest in the oil and gas underlying the property in dispute through a printed form oil and gas lease dated August 31, 1978, from E.L. Hendrix and wife, to Alabama Basic Land Enterprises, Inc. Typewritten onto the first page of the Hendrix lease was the statement: "this lease does not include coal."[106]

Jim Walter Resources, Inc. (Jim Walter) derived its interest in the coal through a lease dated December 6, 1984, from The First National Bank of Tuscaloosa, Trustee, to the United States Pipe and Foundry Company. The coal lease referenced the Hendrix oil and gas lease and indicated that the coal lessee could remove and dispose of the coal seam gas subject to any right of the oil and gas lessee or its assignees.[107] The coal lease also made specific provisions for the removal of coal seam gas and royalty payments should the coal seam gas be sold.[108]

Pinnacle's arguments for partial summary judgment were (1) that its gas lease covered coalbed methane because methane is technically a "gas";[109] and (2) that after extraction of the coal is completed, the mined area reverts to the grantor.[110] Since a gob well produces methane only after mining occurs, this is a post mining method of extraction, and the methane should revert to the coal lessor.[111] Jim Walter relied primarily on the *Hoge* and *Rayburn* decisions in arguing that the coalbed methane was owned by the coal estate as a result of: (1) the characteristics of coalbed methane; (2) the history of coalbed methane production; (3) the acknowledged right to remove the coal included the incidental right to remove the coalbed methane; and, (4) the conveyancing instruments revealed the intent of the parties as to the coalbed methane ownership and development.[112]

In its July 28, 1989 order, the court held that Jim Walter, as the coal lessee, had the exclusive right to produce coalbed gas from the property that was the subject of the lawsuit.[113] The action remained on the docket to settle factual disputes about whether any of the gas produced by Jim Walters was gas other than coalbed methane.[114]

ii. *James C. Street v. OXY USA, Inc.*, Case No. 162-90 (Va. Cir. Ct., filed June 29, 1990)

The plaintiffs in *James C. Street v. OXY USA Inc.* filed a bill of complaint, in the Circuit Court of Buchanan County, Virginia, requesting a declaratory judgment to determine the rights of the parties to the natural gas and coalbed methane gas in a 458-acre tract. Street alleges that an 1887 deed, to OXY's predecessors in title, did not convey the coalbed methane or the natural gas underlying the 458-acre tract. Thus, Street, as surface owner, contends that title to the natural gas and coalbed methane is vested in him. The coal lessee, Garden Creek Pocahontas Company (Garden Creek), and the coal sublessee, Island Creek Coal Company (Island Creek), were allowed to intervene in the case. Garden Creek alleged that as coal lessee it had the right to: (1) release coalbed methane into the atmosphere as a safety measure in its mining operation; and (2) capture the coalbed methane by virtue of its coal lease on the property.

Subsequently, Garden Creek and Island Creek filed a motion for summary judgment. They have argued that the 1887 deed which conveyed "all the coal and mineral in, upon, and underlying" the 458-acre tract did in fact convey the natural gas to OXY's predecessors in title. In support of their argument, Garden Creek and Island Creek cited the decision in *Warren v. Clinchfield Coal Corp.*[115] The court in *Warren* held that the generic term "minerals," unless otherwise qualified, embraced not only solid minerals but oil and gas as well.[116] No decision has yet been reached on the intervenors' motion for summary judgment.

iii. *Finite Resources, Ltd. v. Western Fuels-Illinois, Inc.*, No. 93-L-47 (Ill. Cir. Ct., filed July 20, 1993)

In *Finite*, Finite Resources, Ltd. (Finite), filed suit claiming that Brushy Creek Coal Company, Inc. (Brushy Creek), owed it royalties on the coalbed methane gas Brushy Creek was venting for its coal mine operation. Western Fuels-Illinois, Inc. (Western), the coal owner, leased its interest in

coalbed methane to Finite. Thereafter, Brushy Creek and Western obtained a permit from the Illinois Department of Mines and Minerals, Division of Oil and Gas for the venting of methane gas.[117] Finite claims that Western and Brushy Creek are in violation of the coalbed methane gas lease terms and is: (1) claiming damages in excess of $250,000.00 for Western's failure to plug the Henk No. 1 well; (2) claiming damages in excess of $250,000.00 for Western's alleged coalbed methane waste; and (3) claiming damages in excess of $250,000.00 for Brushy Creek's alleged coalbed methane gas waste.[118]

Brushy Creek and Western filed a countersuit claiming that Finite breached the development covenants of the coalbed methane lease and asked the court to declare the lease terminated.[119] Brushy Creek and Western are seeking damages in the amount of $200,000.00.[120] Brushy Creek and Western claim that since Finite did not develop the land as required in the coalbed methane lease, methane levels in the mine increased, and the mine was evacuated.[121] The damages include the claimed costs of drilling the methane ventilation well and loss of income from coal mining operations.[122] Other issues raised by Brushy Creek and Western involve Finite's royalty payments, rights to wells drilled prior to the lease and rental of these well sites.[123] No decision has been rendered. One of the party's attorneys has indicated that a settlement agreement is currently being negotiated between the parties.

V. Ownership Claims to Storage Container Space

If the property that will be utilized for storage is a fee property (surface and no mineral severances -- all property rights are together in one bundle), there are no specific or problematic issues involved in acquiring storage rights.[124] However, complications may arise as the result of concurrent and future interests.[125] For example, the bundle of property rights may be separated into: (1) surface ownership; (2) coal ownership; (3) gas ownership; (4) oil ownership; and/or (5) residual mineral ownership (minerals other than coal, oil, and gas). Each of these ownership interests may have been leased to companies for development. The lessees of the mineral estates can then create additional burdens upon the leasehold -- overriding royalties, production payments, working interests, joint venture agreements, and farmouts, etc. Furthermore, the ownership interests themselves may be varied: (1) life estates; (2) remainders; (3) possibilities of reverter or reversion; etc.

a. Coal Owner

A few jurisdictions have held that the mineral owner is the owner of the container space.[126] However, at least one jurisdiction has significantly limited the application of such a rule of law.[127] In one recent case, use of the container space was contingent upon the fact that the mine was not exhausted or abandoned.[128] Additionally, decisions awarding container space to the mineral owner have been specifically rejected in Virginia.[129]

b. Surface Owner

The majority of jurisdictions hold that the surface owner, not the mineral owner, owns the container space once the mineral occupying the space has been depleted and mining (or production) of the mineral is abandoned.[130]

In Virginia, the matter of ownership of container space of abandoned coal mines appears to be settled by the 1920 case, *Clayborn v. Camilla Red Ash Coal Co.*[131] Ownership of the container space reverts to the grantor of the coal interest after the coal is removed.[132] In *Camilla Red Ash*, the court was asked to interpret a grant of "all the coal on, in or under" the land, "with the right to mine and remove"[133] the same in relation to ownership of the space created when the coal was mined. The court held that "[u]ndoubtedly, the grantee of coal in place owns a corporeal hereditament; but all the American authorities agree that the right of the grantee to use the space left by the removal of coal terminates and the space reverts to the grantor when the coal has been exhausted."[134] The court reasoned that the reversion takes place because "the grantee has never at any time had a corporeal estate in the containing walls, and that the conveyance carries the estate in the coal only."[135]

Thus, in Virginia, once the coal is removed, the ownership of the container space reverts to the surface owner, at least in cases where the coal owner either reserved or was conveyed "all the coal with the rights to mine and remove the same." However, in light of the increased importance of coalbed methane development, there are no guarantees that dissimilar fact situations will result in the same ownership interpretation by Virginia courts.

An important question not addressed by the court in *Camilla Red Ash* was the point at which coal is considered to be exhausted. Is it exhausted once all the coal that may be economically mined is removed? Additionally, what happens if the mine is abandoned, but there are still recoverable reserves? What if new techniques are discovered that provide a means for recovering coal previously thought to be unrecoverable?

VI. Coalbed Methane Regulatory Environment

The Virginia Gas and Oil Act (ACT) provides that "no person shall commence any ground disturbing activity for a well . . . geophysical exploration or associated activity, facilities or structures without first having obtained from the Director a permit to conduct such activity."[136] A well is defined as "any shaft or hole sunk, drilled, bored or dug into the earth or into underground strata for the extraction, injection or placement of any gaseous or liquid substance, or any shaft or hole sunk or used in conjunction with such extraction, injection or placement."[137] In addition, the ACT defines a storage well as "any well used for the underground storage of gas."[138] Thus, it appears that the ACT includes not only coalbed methane production wells, but any wells that are drilled for purposes of storage.[139]

The ACT sets specific guidelines for permit applications and for coalbed methane production wells.[140] Each application must include information on all activities and associated facilities, including, but not limited to:

a. The name and address of: (1) the applicant; (2) the designated agent required by Va. Code Ann. § 45.1-361.37; and (3) each person to be notified under Va. Code Ann. § 45.1-361.30;
b. The certifications and proof of notice required in Va. Code Ann. § 45.1-361.29E;
c. Identification of the type of well;
d. The plat in accordance with 4 VAC 25-150-90;
e. The operations plan in accordance with 4 VAC 25-150-100;
f. Coalbed methane gas well applications must include the information required in 4 VAC 25-150-560 or 4 VAC 25-150-570; and
g. Any other information required by the Director.[141]

Every application for a coalbed methane well permit shall contain:

a. Identification of the category of owners or operators to be notified, as listed in Va. Code Ann. § 45.1-361.30.A;

b. The consent to stimulate required in Va. Code Ann. § 45.1-361.29 (see below);
c. Proof of conformance with any mine development plan;
d. Approximate depth to which the proposed well is to be drilled or deepened, or actual depth if drilled;
e. The location and thickness of all known coal seams, known water-bearing strata and other known gas or oil strata between the surface and the proposed well drilling depth;
f. Description of the casing program, if any is used;
g. An explanation of the safety procedures to be used for protection of underground coal mine personnel for any coalbed methane gas well to be drilled within 200 feet of or into any area of an active underground coal mine; and
h. If the proposed work is to drill a coalbed methane gas well, a plan showing the proposed manner of plugging after drilling if the proposed well work is unsuccessful so that the well must be plugged and abandoned.[142]

The ACT stipulates that the Director may not issue a permit until the permit applicant provides written certification that the notice requirements,[143] including proof thereof, have been met and that it has the right to conduct the proposed operations.[144] Section 45.1-361.29(F) of the ACT provides additional requirements for coalbed methane wells, including: (1) the method to be used to stimulate the well; (2) a signed consent from the coal operator of each seam to be stimulated; and (3) the unit map, if any, approved by the Virginia Gas and Oil Board (Board).

It should be noted, however, that neither the ACT nor the Virginia permitting regulations[145] contain separate requirements for storage wells. However, a 1996 amendment to the ACT provided that "operators of gas storage fields certificated by the [State Corporation Commission (SCC)] . . . whose certificated area includes the [proposed] well location, or whose certificated boundary is within 1,250 feet of the proposed well location" will receive notice of permit applications.[146] The 1997 amendment to the ACT provides that the filing of an appeal by the operator of a gas storage field certificated by the SCC asserting "that the proposed well work will adversely affect" its storage operations automatically stays the issuance of the permit until settled by the Board or dissolved by a court of record.[147]

VII. Multiple Jurisdictional Issues Regarding Storage in Virginia

An overview of the regulatory schemes affecting gas storage fields in Virginia indicates an overlap in the jurisdictions of the regulatory bodies.

a. Virginia Gas and Oil Board

Under the ACT, the Division of Gas and Oil (DGO) has jurisdiction over storage well operations. The Division issues storage well permits and inspects the wells.

i. Storage Well Permits

At the present time, permits for storage wells are being administered by the Department of Mines, Minerals and Energy's (DMME) DGO pursuant to Va. Code Ann. §§ 45.1-361.1 *et seq.* (Michie 1996 and Michie Supp. 1997) and 4 VAC 25-150-10 - 25-150-750 (1991).[148] As discussed in Section VI, there are no separate statutes or regulations for storage well permits at this time. The statutes and regulations governing production wells are applied.

ii. Inspection of Storage Wells

Current inspections and regulation of storage wells are also governed by the DMME pursuant to Va. Code Ann. §§ 45.1-361.1 *et seq.* (Michie 1996 and Michie Supp. 1997) and 4 VAC 25-150-10 - 25-150-750 (1991).[149] As in the case of storage well permitting, Virginia does not have separate statutes or regulations governing the inspection of storage wells.

iii. Permits for Oil and Gas Production Wells within Storage Field

These permits are administered by the DMME pursuant to the requirements discussed in Section VI herein.

b. State Corporation Commission

Although storage wells fall within the DMME's administration, the SCC also has jurisdiction over storage facilities. Under the Utility Facilities Act (UFA) (Va. Code Ann. §§ 56-265.1 *et seq.* (Michie 1996 and Supp. 1997), the SCC governs ratemaking and approves certificates of convenience and public necessity. Additionally, the UFA implies statutory jurisdiction to the SCC over the operations of storage fields and related facilities.

i. Certification of Storage Field

As of 1994, the certification of storage fields in Virginia is governed by the SCC.[150] A 1994 amendment to the UFA added the word "storage,"[151] thereby creating multiple jurisdictions over storage in Virginia.[152] The UFA provides that "[i]t shall be unlawful for any public utility to construct, enlarge or acquire, by lease or otherwise, any facilities for use in public utility service . . . without first having obtained a certificate from the Commission that the public convenience and necessity require the exercise of such right or privilege." The UFA further provides that a certificate will only be issued after a hearing on the matter and after notice is provided to all interested parties.[153]

The guidelines for SCC hearings on certificates of convenience and necessity are governed by its rules of practice and procedure.[154] A brief description of the pertinent portions of the rules governing the issuance of a certificate follows:[155]

Rule 4:13. *Ex parte* communications are prohibited.

Rule 5:1. The SCC recognizes both formal and informal proceedings. Matters requiring the taking of evidence are considered to be formal proceedings.

Rule 5:2. There are no filing fees unless otherwise provided by law for filing formal or informal proceedings.

Rule 5:11. Once a pleading is filed, amendments may be made, but only with the permission of the SCC. The SCC may require additional notice and afford additional time to respond if it deems such notice and response necessary.

Rule 6:1. All formal proceedings before the SCC are set by order. In the case of an application, the order must provide for notice to all potentially interested parties. The order must fix dates for the filing of prepared testimony and responsive pleadings. The order may also set other directives as deemed necessary.

Rule 6:2. After the filing of the application, and dependant upon the technical nature of the application, the SCC may direct that the applicant file all testimony in question and answers or narrative form, including all exhibits that the applicant expects to use at the formal hearing. Persons filing a notice of protest, may likewise, be required to file testimony in like manner. Failure to comply with the SCC's directions, without good cause, will result in rejection of the testimony and exhibits. Before introduction into the record, the evidence must be verified by a witness.

Rule 6:3. The SCC has the powers of a court of record to compel attendance of witnesses and production of documents. In all proceedings commenced by application, the subpoena of witnesses and for the production of documents must be by order of the SCC.

Rule 6:4. Written interrogatories may be served by any party to an application upon another, except upon SCC staff, as long as a copy is filed with the SCC's Clerk. No interrogatories may be served if they cannot be timely answered before the hearing date without permission from the SCC.

Answers are to be signed by the person making them. Answers or objections must be filed within twenty-one (21) days of receipt of the interrogatories or as proscribed by the SCC.

Rule 8:2. The presiding SCC Commissioner will call the hearing to order and the title of the proceeding and its docket number will be given. The appearance of the parties will be given and their names, addresses, and the nature of their interests will be stated (parties are not permitted to appear "as one's interests may appear"). Anyone appearing must be present at the hearing. The notice of the hearing and the method by which it was served must be entered into the record. A brief statement of the issues involved or the nature and purpose of the hearing will be entered into the record. Any motions, or other matters deemed appropriate by the SCC, will be disposed of prior to taking any testimony.

Direct evidence will be received in the following order, followed by rebuttal evidence: (1) intervenors; (2) applicant; (3) SCC staff; (4) Division of Consumer Counsel; and (5) protestants. Exhibits received

at the hearing must be entered and received for identification and given an identifying number. Where the SCC has to render judgment in its capacity as a court of record, the common law and statutory rules of evidence will be observed. Cross-examination shall be first by SCC's counsel then by adversarial parties. Cross-examination will ordinarily follow direct testimony. The SCC may defer the cross-examination to later in the hearing.

Rule 8:6. In order to sustain an error regarding any ruling, an objection must be stated with reasonable certainty at the time of the ruling.

Rule 8:7. The SCC may require or allow oral argument on any issue presented for decision. In adversarial proceedings, thirty (30) minutes is generally allowed for each side's argument. The SCC may allow more or less time.

Rule 8:8. The SCC may, on its own discretion, require or allow written briefs. The time for filing briefs must be fixed at the time they are required or authorized. Briefs from the adversarial parties may be due on the same day. Unless otherwise ordered, reply briefs will not be permitted or received.

Rule 8:9. A final order (for certificates of public convenience and necessity) remains under the control of the SCC. The final order is subject to be modified or vacated for twenty-one (21) days after the date of the entry, and no longer. A petition for rehearing or reconsideration must be filed within the said twenty-one (21) days. The filing will not suspend the order unless otherwise ordered by the SCC.

Rule 8:10. Any final order of the SCC may be appealed only to the Supreme Court of Virginia, subject to Code §§ 12.1-39 *et seq.* and to Rule 5:21 of that Court.

ii. Operation of Storage Field

Based upon the UFA, the SCC has statutory jurisdiction over the operation of storage fields and related facilities.[156] Virginia is, however, currently without SCC regulations governing the operation of storage fields.[157]

c. Department of Mines, Minerals & Energy

The DMME's Division of Mines (DM) may also have jurisdiction over certain aspects of storage operations. The DM regulates vertical ventilation holes (VVHs) drilled for mine safety. Under current practices, the conversion of a VVH to or from a coalbed methane production well falls under the dual jurisdiction of the DM and the DGO. Similarly, the conversion of a VVH to a gas storage well would encounter the same dual jurisdiction.

i. Permit for Vertical Ventilation Holes

Before drilling a VVH, the mine operator must file, with the Division Chief, in addition to the required application, an accurate plat or map certified by a licensed professional engineer or licensed land surveyor (the specific mapping requirements have been omitted).[158] The application must contain a description of all safety equipment and facilities to be utilized on the surface during and after completion of drilling.[159]

Applicants may apply for simultaneous applications to operate a coalbed methane well which will then be converted to a VVH. This process may also be used by applicants who plan to convert a coalbed methane well to a VVH while mining through and then operate the hole as a gob well. Applications under this section for VVHs shall be in accordance with §§ 2.1 *et seq.* Applications for coalbed methane wells or gob wells shall be in accordance with Va. Code Ann. §§ 45.1-361.1 *et seq.* and VR 480-05-22.1 (1991).[160]

In addition to the information required under both types of applications, section 3.2 requires the submission of a detailed description of the activities to be conducted from the time the activity commences on the site until the hole is plugged.[161] An applicant must fulfill the notice requirements for each type of permit at the time of the application. In addition, objections must be filed in accordance with the requirements for the specific type of permit.[162]

The operators of coalbed methane gas wells or VVHs permitted under §§ 3.1 *et seq.* must notify the Division Chief and the Inspector, in writing, at least two (2) days prior to commencement of activity on conversion of a coalbed methane well to a VVH or a VVH to a gob well. Additional notice provisions may also be applicable.[163]

The deviation of a VVH hole may not exceed one degree (1°) from true vertical, unless a variance is granted. If a variance is not granted, the permittee must correct the borehole to within 1° of vertical; or, conduct a directional survey to the lowest workable coal seam penetrated and notify the coal owners of the actual hole location. Sections 11.1 - 11.4 set forth the requirements regarding deviation testing and the required corrections.[164]

The DMME requirements for a dual application include: (1) a detailed description of the nature of the activities to be conducted from the time activity commences until final plugging of the hole, including the estimated conversion date; (2) the applicant must fulfill the notice requirements for both types of applications; (3) if timely objections are made, the Chief and the Director must decide whether the DMME or the Gas and Oil Division will administer the hearing; (4) if objections are filed under both applications, the hearings may be held jointly; (5) the permit for the coalbed methane well may only be issued after the DMME has indicated that VVH application meets the requirements for a VVH permit; and (6) the operator of a coalbed methane gas well and a VVH so permitted shall jointly notify the DMME and the DGO, in writing, at least two (2) days prior to commencement of activity on conversion of a coalbed methane well to a VVH or a VVH to a gob well.[165]

VIII. History of Gas Storage in Virginia

At the present time, there are three (3) different types of storage fields in operation in Virginia, none of which store coalbed methane. Two (2) of the fields are storing natural gas. The Early Grove Gas Storage Field utilizes a depleted gas field. The Saltville Storage Field uses salt caverns. One (1) of the fields, Washington Gas Light Co.'s facility, stores liquified petroleum gas in a rock cavern.

a. Storage of Natural Gas in Depleted Gas Field - Early Grove Field

The Virginia Oil and Gas Conservation Commission entered a "Provisional Drilling Unit Order" for "Shallow Gas Wells in the Early Grove Gas Field of Scott and Washington Counties in Virginia" on September 1, 1983. The order was to remain in effect pending information necessary to determine the ultimate spacing of the pool. The Virginia Oil and Gas Conservation Board, now known as the Virginia Gas and Oil Board (Board) entered a permanent order establishing the "Early Grove Gas and Oil Field of Scott and Washington Counties, Virginia" on March 20, 1989, effective as of August 10, 1988. The field was limited to wells from the Price and Little Valley formations (at an approximate depth of 4,000 feet or less). Units of 90 acres, with a tolerance of 15%, were designated for the field. Wells could not be located closer than 1,800 feet to any other well in the same pool. No more than one (1) well was allowed per unit unless an exception was granted by the Board.

The following orders modified the permanent Early Grove Field Order. The temporary order (for testing purposes) and all modifications were valid until November 1, 2000.

In 1992, under Docket No. VGOB-92/07/21-0233, the Board established a temporary order for testing of the Price Formation for four units in Early Grove, EH-88, EH-89, EH-103, and EH-105. The temporary order was effective as of July 21, 1992, and expired on the earlier of: (1) completion of the testing period (set as 120 days); (2) a date of termination hereafter established by order of the Inspector or the Board; or, (3) July 20, 1995, unless sooner terminated by order of the Inspector or the Board. Docket Nos. VGOB-93/08/17-0397, VGOB-93/09/21-0404, VGOB-93/10/19-0410, and VGOB-94/06/21-0449 modified the temporary order and provided for the testing of the Price and Little Valley formations in all twenty-one (21) Early Grove units. In addition, the modifications provided that more than one (1) well could be drilled per unit and the testing period was extended through November 1, 2000. The Board designated Virginia Gas Company as the Operator for Early Grove.

Since 1994, Va. Code Ann. § 56-265.1 (Michie Supp. 1997)[166] has required a certificate of public convenience and necessity from the SCC to operate a storage facility.[167] On November 17, 1995, the SCC issued Certificate of Public Convenience and Necessity No. GS-1 to Virginia Gas Storage Company, an affiliate of Virginia Gas Company, "authorizing it to construct and operate an underground storage facility, limited to 1800 psig MAOP, together with related facilities in the Early Grove Field located within the southern portions of the U.S.G.S. Mendota and Wallace

Quadrangles, in Scott and Washington Counties, Virginia, approximately nine miles north of the Virginia-Tennessee state line near the city of Bristol."

At the request of the SCC, Virginia Gas Company filed an application with the Board under Docket No. VGOB-96/02/20-0538 proposing to vacate the Provisional Drilling Unit Order for Shallow Gas Wells in the Early Grove Gas Field of Scott and Washington Counties in Virginia, dated September 1, 1983, the Early Grove Order entered on March 20, 1989, effective as of August 10, 1988, and the temporary order and modifications thereto entered under Docket Nos. VGOB-92/07/21-0233, VGOB-93/08/17-0397, VGOB-93/09/21-0404, VGOB-93/10/19-0410, and VGOB-94/06/21-0449 vacated. The application also sought the vacation of the force pooling order for the unit containing Well No. 8809 entered on March 16, 1989, effective as of August 10, 1988. The orders for Docket No. VGOB-96/02/20-0538 vacating all previous Early Grove orders were entered on May 1, 1996.

The Early Grove Storage Field is currently in operation in southwestern Virginia. The facility is operating without the benefit of specific storage guidelines or regulations, but under the jurisdiction of the SCC and the DMME - DGO.

b. Storage of Natural Gas in Salt Caverns - Saltville Storage Field

In June 1996, Virginia Gas Pipeline Company (VGPC), an affiliate of Virginia Gas Company, filed an application with the SCC requesting a certificate of public convenience and necessity under the UFA to develop, construct, and operate the Saltville underground natural gas storage facility and related facilities in the Town of Saltville in Smyth and Washington Counties, Virginia. On July 10, 1996, the SCC entered an order declaring the proposed tariffs and terms and conditions of service effective as interim measures.

On September 17, 1997, the SCC issued Certificate of Public Convenience and Necessity No. GS-2 authorizing VGPC "to construct, develop, own, operate, and maintain an underground storage facility covering approximately 2,037.25 acres, located on the northeast corner of the Glade Spring U.S.G.S. Quadrangle in Smyth and Washington Counties, Virginia . . . . The maximum surface operating pressure for the CH-16 and

SH-20 cavern and associated facilities shall not exceed 2,400 psig for injections and 2,200 psig for withdrawals." The certificate did not grant a future right-of-way for a second pipeline, which the applicant had requested.

The final order issuing the certificate denied the acquisition adjustment requested by VGPC. The final order also imposed additional requirements upon VGPC: (1) the tariffs and terms and conditions of service for operation were set; (2) VGPC must file revised tariffs on or before September 30, 1997; (3) an annual report concerning rates and annual information must be filed yearly and in no event later than September 30, 1998; (4) an annual report on FERC Form 2 must be filed with the Division of Public Utility Accounting by no later than April 1 of each year; and (5) VGPC must file a complete depreciation study with the Division of Energy Regulation once it gains more experience and once the plant is completed.

As in the case of storage in depleted gas fields, there are no specific guidelines or regulations governing the overall operations of storage fields within salt caverns at the present time. Instead, numerous regulatory agencies have jurisdiction over limited and specific aspects of the operation. Essentially, it is a disjointed regulatory environment involving: (1) SCC; (2) DGO; (3) DM; (4) EPA; (5) Virginia Department of Env ironmental Quality (DEQ); (6) Virginia Department of Conservation and Recreation's Division of Soil and Water Conservation (DCR); (7) Virginia Marine Resources Commission (VRMC); (8) Virginia Department of Transportation (VDOT); (9) United States Army Corps of Engineers; (10) Town of Saltville, Virginia - zoning permit; and (11) Washington County, Virginia - building permit.

c. Storage of Liquified Petroleum Gas in Rock Caverns - Washington Gas Light Co.'s facility

There is one facility, in the Arlington area of northern Virginia, utilizing a rock cavern as storage for liquified petroleum gas (LPG). This facility is operated by Washington Gas Light Co., 1100 H Street, N.W., Washington, D.C. 20080. The LPG storage area has been in use for several years. As in the case of the Early Grove and Saltville Storage Fields, there are no Virginia guidelines or regulations governing storage operations in rock caverns.

IX. Interplay of the Regulatory Schemes

No one agency has primary jurisdiction over storage operations. The different enabling statutes grant control over storage to multiple agencies. The statutes are probably not exclusive of each other. Instead, there is likely a division of jurisdiction. For example, the DGO is presently permitting storage wells. However, a reasonable interpretation of the relevant statutes indicates that the SCC could be the entity to issue permits for storage wells.

If jurisdiction is split between the SCC and DGO, a number of proposals for the division have been discussed. The DGO could oversee below-ground operations and the issuance of permits. The SCC could oversee above-ground operations or those operations defined as a facility under the UFA. Alternatively, the SCC could regulate all operations within a certificated field including the permitting of wells. The DGO currently regulates production wells that go through coal mines and seams, even if they are located within a certificated field.[168]

The DM has obvious interests and expertise in coal related issues. Thus, these kinds of permitting may be best left to the DM even though they exist within the boundaries of a certificated field. As a result, when storing gas in an abandoned coal mine, even more regulatory bodies and groups will have an interest in the project. In addition to the SCC, the DGO, and all of the entities mentioned in the discussion of the storage facilities now operating in Virginia (Section VIII), other bodies such as the Mine Safety and Health Administration, the Division of Mined Land Reclamation and even the United Mine Workers' Association would all have an interest in the project.

Some proposals for jurisdiction have suggested that the SCC should regulate storage wells which are originally drilled for storage purposes. Where jurisdiction is concurrent with the DGO, the SCC could fix rates, issue certificates of public convenience and necessity, and supervise above-ground operations. However, it is unclear whether the SCC or the DGO would manage issues such as safety, the integrity of the container space, and the protection of correlative rights. These are all regulatory issues traditionally within the jurisdiction of oil and gas regulatory bodies.

These conflicting jurisdictional lines are best illustrated by reviewing the different kinds of wells that may be drilled within the gas storage certificated field.

WELLS WITHIN THE CERTIFICATED FIELD	**POSSIBLE INTERESTED REGULATORS**
-Wells drilled as storage wells	DGO or SCC

within the container space	
-Wells drilled as CBM wells, then converted to storage wells within the container space.	DGO and SCC
-Production wells drilled through the storage facility to reach horizons below the storage facility.	DGO
-Production wells drilled in horizons above the storage facility	DGO
-Production wells, storage wells, or converted wells drilled through coal seams	DGO, SCC, DM

Transportation pipelines raise related complications. Intrastate pipelines fall within the SCC's regulatory jurisdiction.[169] However, gathering pipelines are within the purview of the DGO.[170] Interstate pipelines are overseen by the Federal Energy Regulatory Commission.[171]

X. Commissions, Task Forces and Working Groups

In 1995, the SCC appointed a task force to prepare a draft set of rules and regulations governing underground storage facilities. The task force was to be comprised of SCC staff members and representatives from the DMME, Virginia Gas Storage Company, Washington Gas Light Co., and possibly other gas industry members. The task force members that were appointed were Jim Hotinger, SCC; Mark Deering, DMME; Frank Merendino, Virginia Gas Storage Company; Rick Pavarski, RGC; and John Ritzman, Washington Gas Light Co. The task force met once in January, 1996. At the meeting, the task force determined that there were many legal questions that needed to be resolved before regulations could be drafted. Nothing further has been done.

General Assembly Delegate Watkins M. Abbitt, Jr., Chairman of the Committee on Mining and Mineral Resources, has appointed a task force to study the issues regarding storage facilities in Virginia. Presently, Jackie T. Stump is Chairman of the panel, which is made up of John H. Tate, Jr., Terry G. Kilgore, and L. Preston Bryant, Jr.. Delegate Abbitt is an *ex officio* member of the task force.

XI. Conclusion

This report did not attempt to undertake an in-depth analysis of all the issues related to coalbed gas storage in abandoned coal mines in Virginia. Rather, it attempts to generally survey the statutes, regulations, and cases related to coalbed methane ownership issues, container space ownership issues, and gas storage issues in Virginia.

As noted in Section V, Ownership Claims to Storage Container Space, many questions are yet to be answered. Precedents have yet to be established in Virginia in the area of gas storage, particularly in abandoned coal mines. There are three (3) distinct gas or liquified petroleum gas storage facilities currently in operation: (1) Early Grove - natural gas in a depleted gas reservoir; (2) Saltville - natural gas in depleted salt caverns; and (3) Washington Gas Light Co. - liquified petroleum gas in a rock cavern.

The basic problem appears to be that no agency has accepted the full responsibility for governing storage facilities. Agencies are essentially identifying areas for which they want to be responsible, while carving out the areas in which they have no interest, no expertise, or no funding. Until the jurisdictional issues are resolved, this situation will continue into the future. This unsettled regulatory environment creates no stability or predictability for an operator who wishes to engage in this business.

Thus far, none of the attempts to draft regulations or determine which agency should have jurisdiction over storage facilities have met with success. It is clear that these issues will continue to be a problem. Additional issues will arise once storage of coalbed methane gas in abandoned coal mines is considered. Without a mandate from the General Assembly, companies will continue to operate their storage facilities under the conflicting regulatory jurisdictions.

ENDNOTES

. *Southern Ute Indian Tribe v. Amoco Prod. Co.*, 874 F. Supp. 1142 (D. Colo. 1995) *rev'd* No. 94-1579 (10th Cir. July 16, 1997) ; *see also* J. Thomas Lane, *Fire in the Hole to Longwall Shears: Old Law Applied to New Technology and Other Longwall Mining Issues*, 96 W. VA. L. REV. 577, 621 (1994).

. *See infra* notes 28-29 and accompanying text.

3. Richard A. Schraufnagel et al., *Coalbed Methane Development Faces Technology Gaps*, OIL & GAS J., Feb. 5, 1990, at 48.

. *Id.*

. Matt Benson, VOGA's *Work Reaps Success Within Political Arena*, AM. OIL & GAS REP., Aug. 1994, at 127.

. Stephen D. Ban, GAS RESEARCH INST., EXECUTIVE RESEARCH LETTER (Feb. 1993).

. *Id.*; Benson, *supra* note 5.

. Scott H. Stevens, *et al.*, *Technology Spurs Growth of U.S. Coalbed Methane*, OIL & GAS J. Jan. 1, 1996, at 57.

. 11 GAS RESEARCH INSTITUTE, QUARTERLY REVIEW OF METHANE FROM COAL SEAMS TECHNOLOGY No. 1 at 2 (David G. Hill ed., Aug. 1993) [hereinafter QUARTERLY REVIEW NO. 11]; *see also* Benson, *supra* note 5.

. Stevens, *supra* note 8 at 56.

. *Id.* At 57.

. Telephone interview with Richard A. Schraufnagel, Gas Research Institute (Sept., 1997).

. 1988 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. 1989 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. Va. Code Ann. §§ 45.1-361.1-361.40 (Michie Supp. 1990); 1990 Va. Acts 150.

. 1990 and 1991 VIRGINIA GAS AND OIL REPORTS, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. 1992 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. Benson, *supra* note 5.

. 1993 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. 1993 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil; Benson, *supra* note 5, at 127.

. 1994 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. 1995 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. 1996 VIRGINIA GAS AND OIL REPORT, Virginia Department of Mines, Minerals and Energy, Division of Gas and Oil.

. *Id.*

. James P. Holland, *Underground Storage of Natural Gas: A Legal Overview*, 3 EASTERN MIN. L. INST. 19-1 at 19-4 (1982).

. *Id.*

. *See* Section V, Ownership Claims to Storage Container Space, for the discussion of this issue.

. *See Southern Ute Indian Tribe v. Amoco Production Co.*, 874 F. Supp. 1142 (D. Colo. 1995) (basing its decision, in part, on legislative intent) *rev'd* No. 94-1579 (10th Cir. July 16, 1997); Combs v. Hounshell, 347 S.W.2d 550, 552 (Ky. 1961) (finding that the goal of deed construction is to effect the intent of the parties as that intent can be gathered from all of the provisions of the deed); Conner v. Hendrix, 72 S.E.2d 259, 265 (Va. 1952) (finding that the provisions are to be viewed as a whole, with effect and meaning being accorded to every word used in the instrument, if possible); Horne v. Horne, 26 S.E.2d 80, 84 (Va. 1943) (holding that intent is to be gathered from the language used throughout the instrument); Ward v. Baylor, 153 S.E. 894, 896 (Va. 1930) (finding that in interpreting an instrument, a court will generally attempt to determine the purpose and intent of the grantor); James River & Kanawha Power Co. v. Old Dominion Iron & Steel Corp., 122 S.E. 344, 349 (Va. 1924) (finding intent of the deed is to be gathered from the deed as a whole); *see also* 30 U.S.C. §§ 181-287 (1994) (originally enacted as the Mineral Leasing Act of 1920, ch. 85, 41 Stat. 437); 30 U.S.C. §§ 541-541(i) (1994) (originally enacted as the Uraniferous Lignite Act of 1955, ch. 795, 69 Stat. 679); 43 U.S.C. § 299 (1994) (originally enacted as the Stock-Raising Homestead Act of 1916, ch. 9, 39 Stat. 862); 30 U.S.C. § 81 (1994) (originally enacted as Act of Mar. 3, 1909, ch. 270, 35 Stat. 844); 30 U.S.C. §§ 121-123 (1994) (originally enacted as Act of July 17, 1914, ch. 142, 38 Stat. 509); 30 U.S.C. §§ 83-85 (1994) (originally enacted as the Coal Lands Act of 1910, ch. 318, 36 Stat. 583); Act of June 15, 1880, ch. 223, 21 Stat. 199.

. *Id.* A court cannot consider intent of the parties unless it determines that an ambiguity in the language exists. *See* J. Maddox' dissenting opinion in Cantley v. Hubbard, 623 So. 2d 1079, 1082 (Ala. 1993).

. "Coal" is defined under the Bureau of Indian Affairs, Department of the Interior, the agency charged with governing certain mineral regulations, as "*combustible carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite* by A.S.T.M. designation O-388-666." Amoco Production Company's Brief in Support of its Motion for Summary Judgment on the Class Action Claim and the Class Action Defenses at 13, Southern Ute Indian Tribe v. Amoco Prod. Co., No. 91-B02273 (D. Colo. filed Dec. 31, 1991) [hereinafter *Amoco's Brief in Support*]. The Dictionary of Mining, Mineral and Related Terms defines "coal" as:

> *A solid, brittle, more or less distinctly stratified, combustible carbonaceous rock*, formed by partial to complete decomposition of vegetation . . . not fusible without decomposition and very insoluble. The boundary line between peat and coal is hazy . . . as is the boundary line between coal and graphite and the boundary line between carbonaceous rock and coal . . . .

Id. At 108 (citing the DICTIONARY OF MINING, MINERAL AND RELATED TERMS 222 (1969)) (emphasis added).

Webster's Dictionary defines the term "coal" as follows:

> *[A] black or brownish black solid combustible mineral* substance formed by the partial decomposition of vegetable matter without free access of air and under the influence of moisture and in many cases increased pressure and temperature, the substance being widely used as a natural fuel and containing carbon, hydrogen, oxygen, nitrogen, and sulfur as well as inorganic constituents that are left behind as ash after burning . . . .

Id. At 108-09 (citing WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 432 (1976)) (emphasis added).

. "Gas" has been defined as "[t]he aeriform fluid, having neither independent shape nor volume, but tending to expand indefinitely." *Amoco's Brief in Support, supra* note 30, at 111 (citing A GLOSSARY OF THE MINING AND MINERAL INDUSTRY 295 (1920)). The agency charged with governing certain mineral regulations, the Minerals Management Service, Department of the Interior, defines gas as: "[A]ny fluid, either combustible or noncombustible, which is extracted from a reservoir and which has neither independent shape nor volume, but tends to expand indefinitely; a substance that exists in a gaseous or rarified state under standard temperature and pressure conditions." *Id.* (Citing 43 C.F.R. § 3000.0-5 (1992); *accord* 30 C.F.R. §§ 206.151, 216.6(i) (1992)).

Another definition of gas is "a fluid (as air) that has neither independent shape nor volume but tends to expand indefinitely . . . ." *Amoco's Brief in Support, supra* note 30, at 112 (citing WEBSTER'S NEW THIRD INTERNATIONAL DICTIONARY 937 (1976)).

. Paul N. Bowles, *Coalbed Gas: Present Status of Ownership Issue and Other Legal Considerations*, 1 E. MIN. L. INST. 7 (1980).

. *See* Rayburn v. USX Corp., No. 85-G-2661-W, 1987 U.S. Dist. LEXIS 6920 (N.D. Ala. 1987) (memorandum opinion and order), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988); Cantley v. Hubbard, 623 So. 2d 1079 (Ala. 1993); Vines v. McKenzie Methane Corp., 619 So. 2d 1305 (Ala. 1993); Pinnacle Petroleum Co. v. Jim Walter Resources, Inc., No. CV-87-3012 (Ala. Cir. Ct. July 28, 1989) (order partially granting defendant's motion for summary judgment); Carbon County v. Baird, No. DV 90-120, 1992 WL 464786, at *9 (Mont. Dist. Ct. Dec. 15, 1992), *reversed sub nom.* Carbon County v. Union Reserve Coal Co., 898 P.2d 680 (Mont. 1995); United States Steel Corp. v. Hoge, 468 A.2d 1380 (Pa. 1983); Rights to Coalbed Methane Under an Oil & Gas Lease for Lands in the Jicarilla Apache Reservation, (M-36970), 98 I.D. 59 (1990); Ownership of and Right to Extract Coalbed Gas in Federal Coal Deposits, (M-35935), 88 I.D. 538 (1981).

. *Amoco's Brief in Support, supra* note 30 at 108-09; *see also* Skelly Oil Co. v. Savage, 447 P.2d 395, 402 (Kan. 1968) (finding that liquids produced from a well are associated with the gas and such liquids are produced along with the gas; the gas cannot be produced without carrying with it the associated liquids); Blocker v. Christie, 340 S.W.2d 320, 321 (Tex. Civ. App. 1960) (finding that the evidence showed that the liquids involved look like oil, taste like oil, smell like oil and are stored and sold like oil; when the gas leaves the well head it is gaseous, and is also gaseous as it existed in the well).

. Bowles, *supra* note 32, at 7-12.

. *Amoco's Brief in Support, supra* note 30 at 108-09.

. See discussion regarding ownership of the storage container space in Section V.

. Bowles, *supra* note 32, at 7-12. The "surface" owner claim to coalbed methane would not be applicable in

cases where only the surface was granted to the owner. It would, however, be applicable in situations where the coal, oil, and gas had been conveyed, but the other ("residual") minerals were owned by the "surface owner."

. *Amoco's Brief in Support*, *supra* note 30 at 57-62.

. *United States Steel Corp. v. Hoge*, 468 A.2d 1380, 1382 (Pa. 1983).

. *Id.*

. *Id.* at 1384.

. *Id.* at 1385.

. *Rayburn v. USX Corp.*, No. 85-G-2661-W, 1987 U.S. Dist. LEXIS 6920 at *5 (N.D. Ala. 1987).

. *Id.* at *2 (emphasis added).

. *Id.* at *8-*9.

. *Rights to Coalbed Methane Under an Oil & Gas Lease for Lands in the Jicarilla Apache Reservation*, No. M-36970, 98 I.D. 59, 61-62 (1990).

. *Id.* at 62-63.

. *Id*. at 63.

. *Id.* at 63-64.

. *Carbon County v. Baird*, No. DV 90-120, 1992 WL 464786, slip op. at 4 (Findings of Fact).

. *Id.*

. *Id.* at 5.

. *Id.* at 7.

. *Id.* at 8.

. *Id.* at 10.

. *Id.*

. 468 A.2d 1380 (Pa. 1983).

. Civ. No. 85-G-2661-W (N.D. Ala. July 28, 1987), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988).

. No. CV-87-3012 (Ala. Cir. Ct. July 29, 1989).

. Memorandum at 23, *Carbon County* (No. DV 90-120).

. *Carbon County*, No. DV-90-120, slip op. At 4 (Final Judgment and Decree).

. *Id.* at 5-6.

. *Id.* At 7.

. *Carbon County v. Union Reserve Coal Co.*, 898 P.2d 680 (Mont. 1995).

. *Id.* at 686.

. *Id.*

. *Id. at 687*.

. *Id.*

. *Id.*

. *Id.* at 688.

. *Id.* at 689.

. *Id.* at 688.

. *Vines v. McKenzie Methane Corp.*, 619 So. 2d 1305, 1306 (Ala. 1993).

. *Id.*

. *Id.* at 1307.

. 468 A.2d 1380 (Pa. 1983).

. Civ. No. 85-G-2661-W (N.D. Ala. July 28, 1987), *aff'd without opinion*, 844 F.2d 796 (11th Cir., 1988).

. No. DV 90-120, 1992 WL 464786 (Mont. Dist. Ct. Dec. 14, 1992), *rev'd sub nom. Carbon County v. Union Reserve Coal Co.*, 898 P.2d 680 (Mont. 1995).

. *Vines*, 619 So. 2d at 1308.

. *Id.* at 1308-09. *See generally Carter Oil Co. v. Blair*, 57 So. 2d 64 (Ala. 1952).

. *Vines*, 619 So. 2d at 1309. Two of the justices rendered a dissenting opinion, contending that the Deeds were ambiguous. Thus, the dissent concluded that the trial courts erred in holding, as a matter of law, that the parties to the Deeds could have contemplated the conveyance of coalbed methane gas, which was of no commercial value at the time of the Deeds. The date of the conveyance and the minerals commonly recognized at the time of the conveyance were

determinative of the issue. This interpretation was based on several cases. *Id.*

. *Cantley v. Hubbard*, 623 So. 2d 1079, 1080 (Ala. 1993).

. *Id.* at 1079.

. 619 So. 2d 1305 (Ala. 1993).

. *Cantley*, 623 So. 2d at 1080. Justice Maddox entered a dissenting opinion stating that the reservation in the 1929 warranty deed contained a "latent ambiguity" and thus concluded that summary judgment was inappropriate. *Id.* at 1082.

. For additional discussion of the *West* case, see John Land McDavid, Summary, *Construction of Express of* "*all coal*" *in Deed*, 9 E. MIN. LAW FOUND. CASE UPDATE 16 (1994).

. *West*, 631 So. 2d at 216.

. *Id.* at 216-17.

. *Id.* at 222-23.

. *Id.* at 224.

. *Id.* at 223 (citing *Williams v. Gibson*, 4 So. 350, 353-54 (Ala. 1888)). The *Williams* court based its findings on the "rule of capture." *See* Robert E. Hardewicke, *The Rule of Capture and Its Implications as Applied to Oil and Gas*, 13 TEXAS L. REV. 391, 393 (1935)).

. *West*, 631 So. 2d at 224.

. *Id.* at 229.

. *Id.* On December 10, 1993, the Alabama Supreme Court overruled an application for rehearing. The court, however, modified its October 8, 1993 opinion by adding the final sentence of the above-referenced quote.

. *Id.*

. *Id.* Justice Maddox, however, wrote a dissenting opinion. He interpreted the deeds at issue as ambiguous and, therefore, determined that the rules of deed construction set forth in *Nettles v. Lichtman*, 152 So. 2d 450, 452 (Ala. 1934) and *Williams v. Johns-Carroll Lumber Co.*, 192 So. 278, 280 (Ala. 1939) were applicable. Justice Maddox did not believe that the parties to the Deeds contemplated coalbed methane development at the time the deeds were executed. He reasoned: "Why would a party retain the right to something which is only a waste product with well-known dangerous propensities? . . . It strains credulity to think that the grantor intended to reserve the right to extract a valueless waste product with the attendant potential responsibility for damages resulting from its dangerous nature." *West*, 631 So. 2d at 232 (Maddox, J., dissenting) (quoting *Vines v. McKenzie Methane Corp.*, 619 So. 2d 1305, 1308 (Ala. 1993)). Although the definition of "gas," included in the oil and gas statutes in effect at the time, was broad enough to include coalbed methane, Justice Maddox also noted that such a conclusion was probably not the intention of the legislature. *Id.* at 230-31 (referencing Ala. Code § 9-17-1). Justice Maddox was unable to distinguish the *Vines* and

Hoge cases from the case at bar and would have, therefore, applied the holdings in these cases (*Vines* and *Hoge*) to the present case. *Id.* at 232.

. *Southern Ute Indian Tribe v. Amoco Production Co.*, 874 F. Supp. 1142 (D. Colo. 1995) *rev'd* No. 94-1579 (10th Cir. July 16, 1997).

. *Southern Ute Indian Tribe v. Amoco Production Co.*, No. 94-1579 (10th Cir. July 16, 1997).

. *Id.*, slip op. at 12 n.4.

. *Id.* at 26.

. 88 Interior Dec. 538 (1981).

. *Southern Ute*, slip op. at 45.

. *Id.* at 52.

. For a detailed analysis of the case at the trial court level, *see* Elizabeth A. McClanahan, *Coalbed Methane: Myths, Facts, and Legends of its History and the Legislative and Regulatory Climate into the 21st Century*, 48 OKLA. L. REV. 471, 498-506 (1995).

. M. Jill Morgan & Elizabeth A. McClanahan, *Competing Ownership Claims to Coalbed Methane in the Appalachian Basin*, LANDMAN, July-Aug. 1990, at 23.

. *Id.*

. *Id.*

. *Id.*

. *See International Sale Co. v. Goostow*, 878 P.2d 570, 575 (2d Cir. 1989).

. Morgan & McClanahan, *supra* note 106.

. *Id.*

. *Pinnacle Petroleum Co.*, No. CV-87-3012 (Ala. Cir. Ct. July 28, 1989) (order partially granting defendant's motion for summary judgment).

. *Id.* Litigation in the case has continued in certain bankruptcy proceedings. The court granted Pinnacle's motion to sever claims against Jim Walter to allow Pinnacle to proceed against the solvent defendants. *Id.*

. 186 S.E.2d 20 (Va. 1986).

. *Id.* at 22.

. *Finite*, (No. 93-L-47).

. *Id.* (Complaint at 2-5).

. *Id.*; see Answer to Defendants/Counterplaintiff's Affirmative Defenses and Counterclaims at 1-2.

. *Id.* at 10.

. *Id.* at 9-10.

. *Id.* at 10.

. *Id.* at 11-12.

. W.L. Summers, LAW OF OIL & GAS, § 758.1 at 84 (Supp. 1997).

. *Id.*

126. *Attebery v. Blair*, 91 N.E. 475, 479 (Ill. 1910) (finding mineral owner could "use the space where the coal was found in any way which they saw fit"); *Lillibridge v. Lackawana Coal Co.*, 22 A. 1035, 1037 (Pa. 1891) (explaining that the surface owner "cannot possibly use any part of the space left by the removal of the coal, and hence they are not obstructed in the slightest degree. The right to use that space is exclusively in the" mineral owner).

127. *See Webber v. Vogel*, 42 A. 4, 5 (Pa. 1899) (stating that although *Lillibridge* is not overruled, the coal owner has a right to the mine space only while work was progressing. The coal interest did not include "an undisputed and perpetual right of way under another's land).

. *See, International Salt Co. v. Geostow*, 878 F.2d 570 (2nd Cir. 1989) (granting right to use of excavated cavity so long as mine is not exhausted or abandoned to owner of mineral interest. Use of cavity is contingent upon the fact that the mine is not exhausted or abandoned. Mineral owner owns only the salt, not the excavation cavity or containing chamber. However, the court indicated a deed granting "'mines *and* minerals'" could entitle the mineral owner to the container space after minerals are depleted).

129. *Clayborn v. Camilla Red Ash Coal Co.*, 105 S.E. 117, 128 Va. 383 (1920) (specifically rejecting *Lillibridge* holding).

. Summers, *supra* note 124, n. 67.5. *See, Ellis v. Arkansas Louisiana Gas Co.*, 450 F. Supp. 412 (E.D. Okla. 1978), (holding that a grant of minerals gives grantee the right to explore and produce the minerals ─ grant does not convey "the stratum of rock containing the pore spaces within which the oil and gas may be found") (the American rule is that the cavern which remains after the hard minerals are mined is owned by the surface owner) (portion of case involving prescriptive easement affirmed by 609 F.2d 436 (10th Cir. 1979)); *Emeny v. United States*, 412 F.2d 1319 (Cl. Ct. 1969) (oil and gas leases for purposes of mining and operating for oil and gas do not grant rights to store foreign minerals in closed structure or underground dome under leased property); *Miles v. Home Gas Co.* 35 A.D.2d 1042 (N.Y. 1970) (grant of "all the oil, gas and minerals . . . together with right at all times to enter on said premises and to bore wells, make excavations, lay pipes and remove all oil, gas and minerals found thereon" conveyed rights pertaining only to production and transmission and could not be construed to cover use of depleted domes or strata for storage of gas from foreign fields).

. *Camilla Red Ash*, *supra* note 129.

. *Id.*

. *Id.* at 385.

. *Id.* at 389-90.

. *Id.* at 390.

. Va. Code Ann. § 45.1-361.29 (Michie Supp. 1997).

. Va. Code Ann. § 45.1-361.1 (Michie 1996).

. *Id.*

. *See also*, Section VII, Multiple Jurisdictional Issues Regarding Storage in Virginia.

. The permitting guidelines were promulgated pursuant to and authorized by the ACT. Va. Code Ann. § 45.1-361.27 (Michie Supp. 1997). The regulations specifying permit application criteria are contained in 4 VAC 25-150-10 - 25-150-750 (1991). These regulations are currently under review by the Virginia Department of Mines, Mineral and Energy (DMME). On June 21, 1994, Virginia's Governor George Allen issued Executive Order Number Fifteen which provides that state agencies must conduct "a comprehensive review of all existing regulations, to be completed by January 1, 1997. . . . as to whether each existing regulation should be terminated, amended or retained in its current form." Exec. Order No. 15, 10 Va. Regs. Reg. 5457 (July 11, 1994). Each agency must also develop a procedure for ongoing reviews of its regulations, including evaluation and determination of the regulations' effectiveness. *Id.* The review schedule set forth by Order Number Fifteen provides that agencies reviewing more than ten (10) regulations "must complete their reviews and assessments for at least one-half of their regulations by July 1, 1995, and must complete their reviews of the remaining regulations by July 1, 1996." *Id.* For reviews due by July 1, 1995, final approval by the Secretaries of all agencies shall be completed by January 1, 1996. For all remaining reviews, the completion date is January 1, 1997. *Id.* at 5458; *see also* Barry McKay, *Legislative and Regulatory Update*, LANDMAN, Sept.-Oct. 1994, at 37.

Industry, government, and public comments obtained during regulatory working group meetings were submitted to the DMME in February, 1995. On July 8, 1996, the DMME published a Notice of Intended Regulatory Action (NOIRA) stating its intent to amend the Virginia Gas and Oil Regulations (VR 480-05-22.1 and VR 480-05-22.2) (the regulations have been renumbered as 4 VAC 25-150-10 - 25-150-750 and 4 VAC 25-160-10 - 25-160-230, respectively, due to an error in the original numbering system). 12 Va. Regs. Reg. 2733 (July 8, 1996). The revised regulations for the Virginia Gas and Oil Board (Board) were published in final form on July 21, 1997, and became effective August 20, 1997. 4 VAC 25-160-10 - 25-160-200 (1997). The public hearing on the permitting regulations (4 VAC 25-150-10 - 25-150-750) will be held October 8, 1997, at 10:00 a.m. at the DMME's Keen Mountain office. The written comment period will continue until October 24, 1997. Thus, the final revisions to the permitting regulations are not completed at this time.

. 4 VAC 25-150-80 (1991).

. 4 VAC 25-150-560 (1991). The provisions of 4 VAC 25-150-570 (1991) are discussed in Section VII.c.i, Permits for Vertical Ventilation Holes.

. Va. Code Ann. § 45.1-361.30(A) (Michie 1996).

. *Id.*

. 4 VAC 25-150-10 - 25-150-750 (1991).

. Va. Code Ann. § 45.1-361.30 (Michie 1996). 1996 Va. Acts c. 854.

. Va. Code Ann. § 45.1-361.23 (Michie Supp. 1997). 1997 Va. Acts c. 759.

. *See*, however, Section X, Commissions, Task Forces and Working Groups.

. *Supra* note 140.

. Va. Code Ann. § 56-265.1 (Michie Supp. 1997).

. Va. Code Ann. §§ 56-265.1 *et seq.* (Michie 1995 and Michie Supp. 1997).

. 1994 Va. Acts c. 652. *See also*, Section X regarding Commissions, Task Forces and Working Groups.

. Va. Code Ann. § 56-265.2 (Michie 1995).

. Commonwealth of Virginia, State Corporation Commission, RULES OF PRACTICE AND PROCEDURE (1974, revised 1986).

. This summary is not all inclusive. In order to view all the rules that govern the procedure to obtain a certificate of public convenience and necessity, consult the above-referenced Rules of Practice and Procedure.

. Va. Code Ann. §§ 56-265.1, -265.2 (Michie 1995 and Michie Supp. 1997).

. *See* Section X regarding Commissions, Task Forces and Working Groups.

. VR 480-05-96 § 2.1 (1991).

. *Id.* at § 2.3.

. *Id.* at § 3.1. Note that VR 480-05-22.1 has been renumbered as 4 VAC 25-150-10 - 25-150-750 (1991). The section in the renumbered regulations governing simultaneous applications for permits for a coalbed methane gas well and a VVH is 4 VAC 25-150-570 (1991).

. VR 480-05-96 § 3.2 (1991).

. *Id.* at § 3.3.

. *Id.* at § 3.4.

. *Id.* at §§ 11.1 - 11.4.

. 4 VAC 25-150-570 (1991).

. 1994 Va. Acts c. 652.

. Va. Code Ann. § 56-265.2 (Michie 1995).

. 4 VAC 25-150-530 (1991). This regulation requires the setting of coal protection strings for conventional gas wells that will encounter coal seams that have not been mined out. *Id.*

. Va. Code Ann. § 56-265.1 (Michie 1995 and Supp. 1997).

. Va. Code Ann. §§ 45.1-361.1 *et seq.* (Michie 1996 and Supp. 1997). 4 VAC 25-150-720 - 4 VAC 25-150-750 (1991).

. 42 U.S.C.S. § 7172(a) (Law. Co-op. 1997).